# T&E Working-level IPT ‘Smart Book’

## 19 November 2010

# T&E ‘Smart Book’ Purpose

**Provide the Chair, along with the other T&E WIPT members, assistance with the:**

1. **Establishment of a T&E WIPT**

2. **TEMP Development and Approval Process**

3. **Addressing and Retiring of All T&E issues**

# Testimonials from Final Draft Staffing

- **PM under PEO C3T:** **"I think this is very useful. Wish I had it when I started the job. I think you've pretty much hit all the lessons that I've learned so far. Kicking off the T&E WIPT has been a very challenging and frustrating experience. Wish I had more input, but I've only been at this for a short time (less than 5 months)."**

- **PM under PEO EIS:** **"Document is helpful. While it's definitely helpful to invite HQDA offices to T&E WIPT meetings, in many cases, OSD representatives are not empowered, which can become an issue."**

- **PM under PEO Ammo:** **"This is an excellent product, and an excellent idea. I wish I had this as a guide a year ago when I got involved with the TEMP. "**

# Testimonials from Final Draft Staffing

- **PM under PEO Aviation: "T&E WIPT 'Smart Book' is great to use to brief those who can't spell T&E!"**

- **PM under PEO C3T: "I find the Smart Book to be a potentially valuable tool. The Briefing format is easy to transport and use so I would recommend keeping this format. Of course I believe the final version should be posted on Army T&E web site."**

- **CERDEC's NVESD: "While I think it leans a little more towards the higher level programs, I find it comprehensive and useful."**

- **PM under PEO Aviation: "Briefing (and the process it describes) seems to be well structured and logical. If things always worked this way in practice, we'd all have**

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# T&E Working-Level IPT (T&E WIPT)

# T&E WIPT Objectives

- **Provide a forum for all key organizations to be involved early in the integrated T&E process.**
- **Identify and resolve issues early.**
- **Develop an integrated T&E Strategy, as well as a coordinated program for M&S, developmental tests, and operational tests to support a determination of whether or not a system is operationally effective, suitable, and survivable.**
- **Develop a mutually agreeable T&E program that will provide the necessary data for system evaluations and assessments.**
- **Document a quality TEMP that is acceptable at all organizational levels as quickly and as efficiently as possible – necessitates that all interested parties are afforded an opportunity to contribute to the TEMP development.**
- **Deliver all documents in a timely manner in order to keep pace with the system's T&E and acquisition schedules.**

**Source: AR 73-1 (para 8-1b) and T&E Managers Committee**

# T&E WIPT Responsibilities

- **Produce the Test and Evaluation Master Plan (TEMP)**
- **Assist in development of :**
  - **Critical Technical Parameters (CTP)**
  - **Test and Evaluation Strategy (TES)**
  - **Critical Operational Issues and Criteria (COIC)**
- **Review and provide input to:**

**- Acquisition Strategy**
**- CDD and/or CPD**
**- Information Support Plan**
**- RFP and SOW**
**- System Specification**
**- System Training Plan (STRAP)**
**- System Safety Management Plan**
**- System Threat Assessment Report**
**- Simulation Support Plan (SSP)**
**- Early Strategy Review**
**- System Evaluation Plan (SEP)**
**- Event Design Plans (EDPs)**
**- Outline Test Plans (OTPs)**
**- Test Waiver Requests**

**Source: DA Pam 73-1 (para 2-7) and T&E Managers Committee**

# T&E WIPT
# Proposed Rules

1) Be established, chartered, and chaired by the PM/MATDEV/Combined Test Organization.
2) Coordinate with other functional IPTs/groups to:
   - Ensure an integrated program effort
   - Integrate T&E requirements
3) Facilitate the TEMP coordination process by:
   - Producing a coordinated TEMP
   - Resolving cost and schedule problems
   - Determining test data confirmation requirements
4) Provide a forum to assist personnel responsible for T&E documentation and execution:
   - Ensure T&E planning, execution, and reporting are directed toward common goals
   - Accomplish WIPT coordination among all members of the acquisition team, to include the system contractor
   - Minority opinions will be documented
5) Immediately elevate disagreement on matters of substance that cannot be resolved within the T&E WIPT through command channels to the next higher level for

Source: DA Pam 73-1 (para 2-5a) and T&E Managers Committee

# T&E WIPT
# Proposed Rules (continued)

6) Establish necessary subgroups to address related T&E issues.
7) Support the Continuous Evaluation process by accomplishing early, more detailed, and continuing T&E documentation, planning, integration thus promoting the sharing of data.
8) Assist in preparing the T&E portions of the acquisition strategy, the RFP, and related contractual documents – includes assisting in evaluating contractor or developer proposals when there are T&E implications.
9) Adhere to IPT principles in OSD's 'Rules of the Road:'
    - Open discussion
    - Proactive participation
    - Empowerment
    - Early identification and resolution of issues
10) Chairperson will prepare and distribute minutes of all T&E

Source: DA Pam 73-1, para 2-5a

# T&E WIPT Composition

**Program Manager (Chair) ***

**Combat Developer ***

**System Evaluator ***

**Developmental Tester**

**Operational Tester**

**Logistician**

**Threat Integrator**

**Survivability/Lethality Analyst**

**E3/SM and/or JSC SME**

**Training Developer/Trainer**

**Cognizant Safety Engineer****

**HQDA Staff**

(1) ASA(ALT)
(2) DCS, G-1
(3) DCS, G-2
(4) DCS, G-3/5/7
(5) DCS, G-4
(6) DCS, G-8
(7) ASA(ALT) ILS
(8) CIO/G-6
(9) DUSA-TE

**Others as required, e.g. PEO, system contractors, support contractors, etc.**
**For OSD T&E Oversight programs, representatives from DOT&E and the cognizant OIPT Chair from DT&E or NII.**

* Core members
** For designated Complementary Systems

# T&E WIPT
# Charter Development

- **MATDEV/PM will charter a T&E WIPT, regardless of the system's ACAT Level**
- **T&E WIPT Charter**
  - **Documents the mission and products to include the timeframe in which the effort will be completed**
  - **Establishes the membership, scope, objectives, and procedures**
- **Finalized based upon the initial T&E WIPT meeting**
- **Approved by MATDEV/PM upon concurrence by principal T&E WIPT members**
- **T&E WIPT Charter – Refer to DA Pam 73-1, Figure 2-2**

# T&E WIPT Subgroups

| Subgroup | Chair |
|---|---|
| RAM | MATDEV / CBTDEV |
| Test Synchronization | MATDEV / PEO Integration |
| Supportability | PM or MATDEV ILS |
| Modeling & Simulation | PM or MATDEV |
| Threat | Threat Integrator member of T&E WIPT |
| Live Fire T&E | USATEC |
| Other Subgroups as required | TBD |

Sources: DUSA-TE Memo, subject: Army Test Synchronization, 19 Oct 10

# T&E WIPT
# "Do's" and "Don'ts"

**(SOURCE: TEMAC T&E WIPT 'Smart Book')**

- **Do invite HQDA offices to participate in the T&E WIPT**
- **Do obtain appropriate OSD office(s) involvement early**
- **Do know T&E WIPT issues & be empowered**
- **Do hold program to the rigorous T&E process**
- **Do base positions on facts, vice emotions**
- **Do elevate an issue if unable to resolve within the T&E WIPT**

- **Don't dismiss T&E WIPT meetings as unimportant**
- **Don't dismiss T&E WIPT members' comments without reasoned debate**
- **Don't allow unresolved issues to fester within the T&E WIPT (that is, take extra effort to resolve one-on-one and face-to-face)**

# TEMP Development

# What is a TEMP ?

- **Executive level strategy and basic planning document for all life cycle T&E for a particular system acquisition - Contract Between All Stakeholders**
- **Overall T&E structure, major elements, and objectives**
- **Consistent with Acquisition Strategy**
- **Sufficient detail to permit planning for timely availability of test resources required to support the T&E program**
- **Road Map for integrated:**

# TEMP Development Process

- **Develop the TEMP via the T&E WIPT process**
- **Use DA Pam 73-1 for TEMP development**
- **Provide sufficient details about your future DT&E activities (Part III)**
  - **Be specific while eliminating the "fluff"**
  - **A TEMP is a master strategy document, not a detailed test plan**
- **To reduce the size of TEMPs, use pointers to other documents where more details are present, such as:**
  - **Software development plans**
  - **Modeling and simulation plans**
  - **Logistic support plans**
  - **Hazard Tracking System (HTS)**
- **Include T&E WIPT Subgroups (that is, RAM, Supportability M&S, Threat, Live Fire, etc) in the T&E planning**

# TEMP Content

- **OSD TEMP Approval Memo**
- **Approval Page**
- **Cover Sheet**
- **T&E WIPT Coordination Sheet**
- **Table of Contents**
  - **Part I - Introduction**
  - **Part II - Test Program Management and Schedule**
  - **Part III - Test and Evaluation Strategy**
  - **Part IV - Resource Summary**
  - **Annex A - Bibliography**
  - **Annex B - Acronyms**
  - **Annex C - Points of Contact**
  - **Attachment 1 – Requirements / Test Crosswalk Matrix**
- **Additional appendices / annexes / attachments as needed**

# TEMP Part I (Introduction) Preparation Responsibility Matrix



| TEMP PART & SECTION | PM | SE | CD / FP | TI | LOG | T&E ACTIVITY |
|---|---|---|---|---|---|---|
| 1.1 Purpose | P | | S | | | S |
| 1.2 Mission Description | S | | P | | | |
| 1.3 System Description | | | | | | |
| 1.3.1 System Threat Assessment | S | | | P | | |
| 1.3.2 Program Background | P | | S | | | S |
| 1.3.3 Key Capabilities | P | P | P | | | S |
| 1.4 Test Synchronization | P | S | P | | | P |

**Legend**

**P:** Primary Responsibility
**S:** Support Responsibility
**PM:** Program Manager
**SE:** Systems Engineer
**CD/FP:** Combat Developer/Functional Proponent
**TI:** Threat Integrator
**LOG:** Logistician

# TEMP Part II (Test Program Management & Schedule) Preparation Responsibility Matrix



| TEMP PART & SECTION | PM | SE | CD / FP | TI | LOG | T&E ACTIVITY |
|---|---|---|---|---|---|---|
| 2.1 T&E Management | P | | S | | S | S |
| 2.2 Common T&E Data Base Requirements | P | | | | | S |
| 2.3 Deficiency Reporting | P | | | | | S |
| 2.4 TEMP Updates | P | | S | | | S |
| 2.5 Integrated Test Program Summary | P | | S | | S | S |

**Legend**

**P:** Primary Responsibility
**S:** Support Responsibility
**LOG:** Logistician
**PM:** Program Manager
**SE:** Systems Engineer
**CD/FP:** Combat Developer/Functional Proponent
**TI:** Threat Integrator

# TEMP Part III (T&E Strategy) Preparation Responsibility Matrix



| TEMP PART & SECTION | PM | SE | CD / FP | TI | LOG | T&E ACTIVITY |
|---|---|---|---|---|---|---|
| 3.1 T&E Strategy | P | | | | | P |
| 3.2 Evaluation Framework | S | | S | | | P |
| 3.3 Developmental Evaluation Approach | P | | | | | P |
| 3.4 Live Fire Evaluation Approach | P | | | | | P |
| 3.5 Certification for Initial Operational Test | P | | S | | | P |
| 3.6 Operational Evaluation Approach | S | | | | | P |
| 3.7 Other Certifications | P | | | | | S |
| 3.8 Reliability Growth | P | | | | | P |
| 3.9 Future T&E | P | | | | | P |

**Legend**

**P:** Primary Responsibility
**S:** Support Responsibility
**LOG:** Logistician
**PM:** Program Manager
**SE:** Systems Engineer
**CD/FP:** Combat Developer/Functional Proponent
**TI:** Threat Integrator

# TEMP Part IV (Resource Summary) Preparation Responsibility Matrix



| TEMP PART & SECTION | PM | SE | CD / FP | TI | LOG | T&E ACTIVITY |
|---|---|---|---|---|---|---|
| 4.1 Introduction | | | | | | |
| 4.1.1 Test Articles | P | | | | S | P |
| 4.1.2 Test Sites & Instrumentation | P | | S | | S | P |
| 4.1.3 Test Support Equipment | S | | | S | S | P |
| 4.1.4 Threat Representation | S | | | S | | P |
| 4.1.5 Test Targets and Expendables | P | | | S | | P |
| 4.1.6 Operational Force Test Support | | | | S | | P |
| 4.1.7 Models, Simulations, & Testbeds | P | | S | | | P |
| 4.1.8 Joint Operational Test Environment | S | | S | S | | P |
| 4.1.9 Special Requirements | S | | | | | P |
| 4.2 Federal, State, & Local | P | | | P | | P |

**Legend**

**P:** Primary Responsibility **PM:** Program Manager **CD/FP:** Combat Developer/Functional Proponent
**S:** Support Responsibility **SE:** Systems Engineer **TI:** Threat Integrator

# TEMP Appendices / Attachments Preparation Responsibility Matrix



| TEMP PART & SECTION | PM | SE | CD / FP | TI | LOG | T&E ACTIVITY |
|---|---|---|---|---|---|---|
| Appendix A. Bibliography | P | S | S | S | S | S |
| Appendix B. Acronyms | P | S | S | S | S | S |
| Appendix C. Points of Contact | P | S | S | S | S | S |
| Attachment 1. Requirements / Test Crosswalk Matrix | P | S | S | S | S | S |
| Attachment 2. Test Synchronization Opportunities | P | S | P | | | P |
| Other Annexes / Attachments | P | P | P | P | P | P |

**Legend**

**P:** Primary Responsibility
**S:** Support Responsibility
**PM:** Program Manager
**SE:** Systems Engineer
**CD/FP:** Combat Developer/Functional Proponent
**TI:** Threat Integrator
**LOG:** Logistician

# Requirements / Test Crosswalk Matrix

- **Purpose: Ensure system is not over tested or under tested**
- **Provides a linkage among**
  - ✓ **Analysis of Alternatives (AoA)**
  - ✓ **Measures of Effectiveness/Performance (MOEs/MOPs)**
  - ✓ **Measures of Suitability (MOSs)**
  - ✓ **ICD, CDD, and/or CPD, as appropriate**
  - ✓ **Key Performance Parameters (KPPs)**
  - ✓ **Critical Operational Issues (COIs)**
  - ✓ **Critical Technical Parameters (CTPs)**
- **Matrix relates requirements to specific test events for identification of data necessary to evaluate the system**
- **Matrix should consist of all test events contained in the test strategy**

**Source: AR 73-1 (para10-2b(8)) and DA Pam 73-1 (para D-6d)**

# Requirements/Test Crosswalk Matrix (Example) *

| COIs | AOA | MOE/MOS ** KPP | CTPs | ICD/CDD/CPD (Reference Paragraph) | EMD-DT | EMD-OT | 96-98 Digitization Technical Tests | 98 Digitization Customer test | CDS4 Technical Test | CDS4 Operational Test | Additional Testing |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Is the OH-48X capable of conducting armed reconnaissance in the air cavalry unit? | Mission Performance | 1) Mission Capable** | HOGE | 5.c(1)a | x | x | x | | | | |
| | | | VROC | 5.c(1)b | x | x | x | | | | |
| | | | Endurance Flight Time | 5.c(1)c | x | x | x | | | | |
| | | | HOGE at alternative MGW | 5.c(1)d | x | x | x | | | | |
| | | | Controllability | 5.c(1)e | x | x | x | | x | x | |
| | | | Dash airspeed | 5.c(1)f | x | x | x | | | | |
| | | | Slope landing | 5.c(1)g | x | x | | | | | |
| | | | Max power rating | 5.c(1)h | x | x | x | | | | |
| | Target Accuracy Target Acquired | 2) Visionics | Target acquisition, designation, and location | 5.e | x | x | x | x | x | x | |
| | | 3)Avionics | Navigation capability | 5.g(2) | x | x | x | x | x | x | |
| | | | Communications | 5.g(3) | x | x | x | x | x | x | |
| | | 4) Armament | | 5.h | x | x | x | x | x | | |
| | Battlefield Information | 5) Interoperability ** | Interoperability | DOD JTA | x | x | x | x | x | x | |
| | | 6) Countermeasures | | 5.i | x | x | | | | | |
| | | 7) Ballistic Protection | | 5.J | | | | | | | x |
| | | 8) NBC Survivability | | 5.m | x | x | | | | | |
| | | | | | | | | | | | |
| 2. Can the Armed OH-48X be deployed to, and sustained in, an operational environment? | Mission/Day, Response Time | 1) Transportability | | 5.l | x | x | | | | | |
| | Mission Completion Rate | 2) RAM | MTBMAF | 5.k(2) | x | x | x | x | x | x | |
| | | | Mission reliability (4 hr mission) | 5.k(2) | x | x | x | x | x | x | |
| | | | MTTR | 5.k(2) | x | x | x | x | x | x | |
| | | | MR (AVIM) | 5.k(2) | x | x | x | x | x | x | |
| | | | MR (AVUM) | 5.k(2) | x | x | x | x | x | x | |
| | | 3) Human Factors | | 5.s | x | x | x | x | x | x | |
| 3. Can the Armed OH-48X meet mission requirements in operational electromagnetic environments? (AI) | Mission Completion ($E^3$) Environment | 1) E3 | EMI/EMV | 5.u | x | x | x | x | | | x |

***Note: Although it can form the basis of a Requirements/Test Crosswalk Matrix, ATEC's Baseline Correlation Matrix (BCM) involves far more detail than what is currently required for the TEMP.**

# Test Synchronization Opportunities

- **Purpose:** Assure Army Leadership that systems can interoperate and work together.

- **Minimal Essential Elements:**

**(1) Integrated Schedule.** Depict which components of the Operational View 1 will be considered in the test integration.

**(2) Capability Package.** Discuss linkage to specific capability packages and/or sets. **(3) Architecture Assessment.** Summarize the system and associated network operational view (OV-1), system view (SV-1), and service (SvcV-1] view architecture implications to include aspects of Service, Joint, coalition, and mission partner interoperability. **(4) Critical Path.** List events, to include entrance criteria, required for successful synchronization of system testing. For example, specify key complementary systems technical maturity and interim authority to operate.

**(5) Five Year Test Program / Test Schedule and Review Committee Impacts.** Describe issues requiring Senior Leadership involvement prior to semi-annual publication of the Five Year Test Program.

**(6) Limitations.** Discuss areas that may impact characterizing the operational effectiveness of the system(s). Describe measures taken to mitigate the limitations.

**Sources: DUSA-TE Memo, subject: Army Test Synchronization, 19 Oct 10**

# TEMP
# "Do's" and "Don'ts"

- **Do have strict configuration control over TEMP**
- **Do have Resources (Part IV based upon planned testing**
- **Do have Requirements / Test Crosswalk Matrix as Attachment 1**
- **Do know the TEMP Approval Authority before developing the TEMP**
- **Do treat the TEMP as a "Contract among all Stakeholders"**
- **Do ensure that Core T&E WIPT members agree with any change(s) required to obtain TEMP approval after providing their signature on the TEMP's T&E WIPT Coordination Sheet**

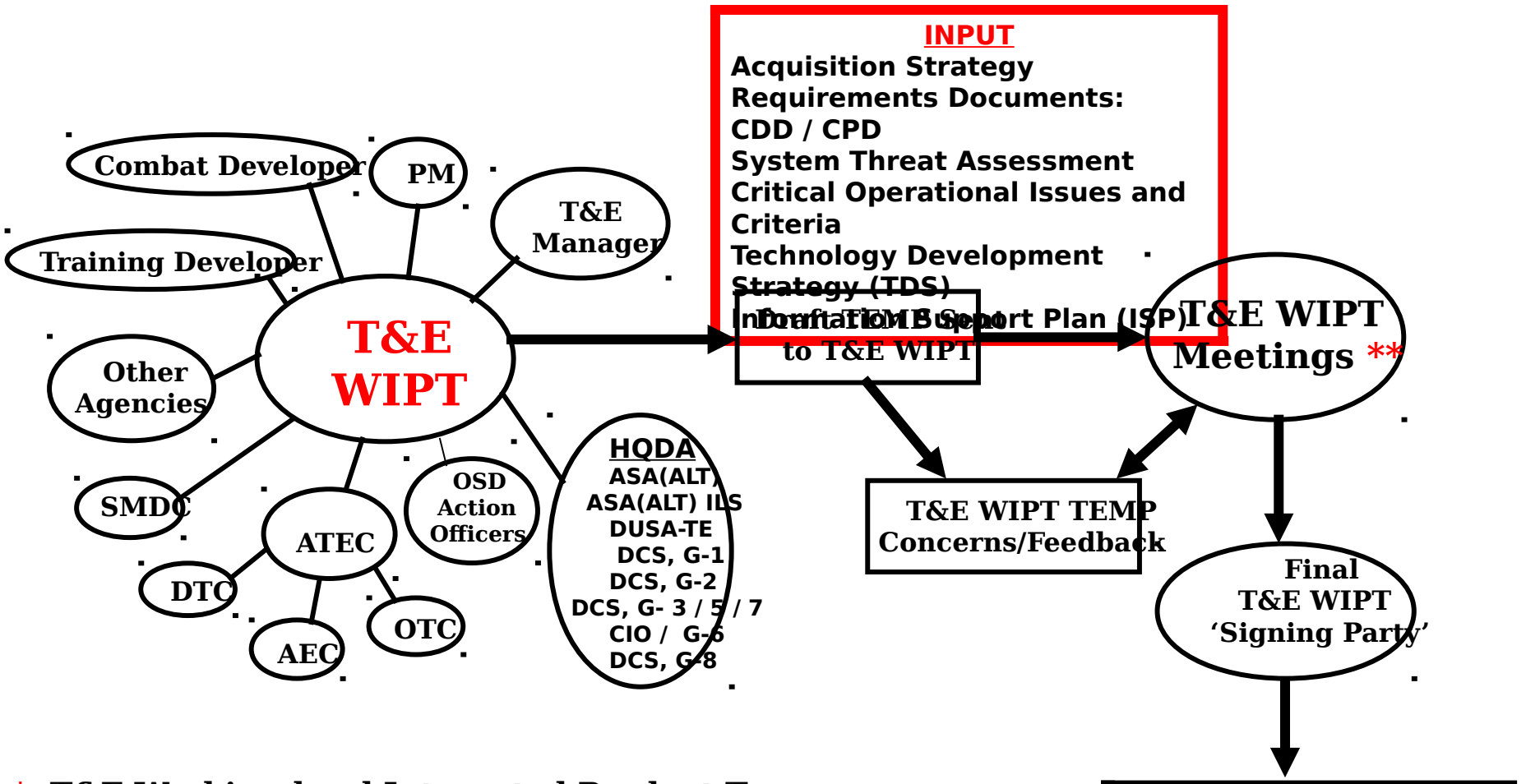
# TEMP
# "Do's" and "Don'ts"
## (continued)

- **Do** have a TEMP line-by-line review prior to T&E WIPT "Signing Party"
- **Do** be VERY aware of COIC and CDD / CPD staffing approval timelines
- **Do** attach approved COIC prior to submitting the TEMP for approval
- **Don't** attempt to gain TEMP approval before obtaining COIC approval
- **Don't** allow "Concur with Comment" on <u>final</u> T&E WIPT Coordination Sheet
- **Don't** have TEMP simply refer to SEP so as to avoid unnecessary tiering

# TEMP Approval

**Detailed guidance for the TEMP approval process is contained in DA Pam 73-1, para 3-5 (*http://www.hqda.army.mil/tema*). The following Charts diagram the various processes.**

# Army TEMP
# T&E WIPT Coordination Process *



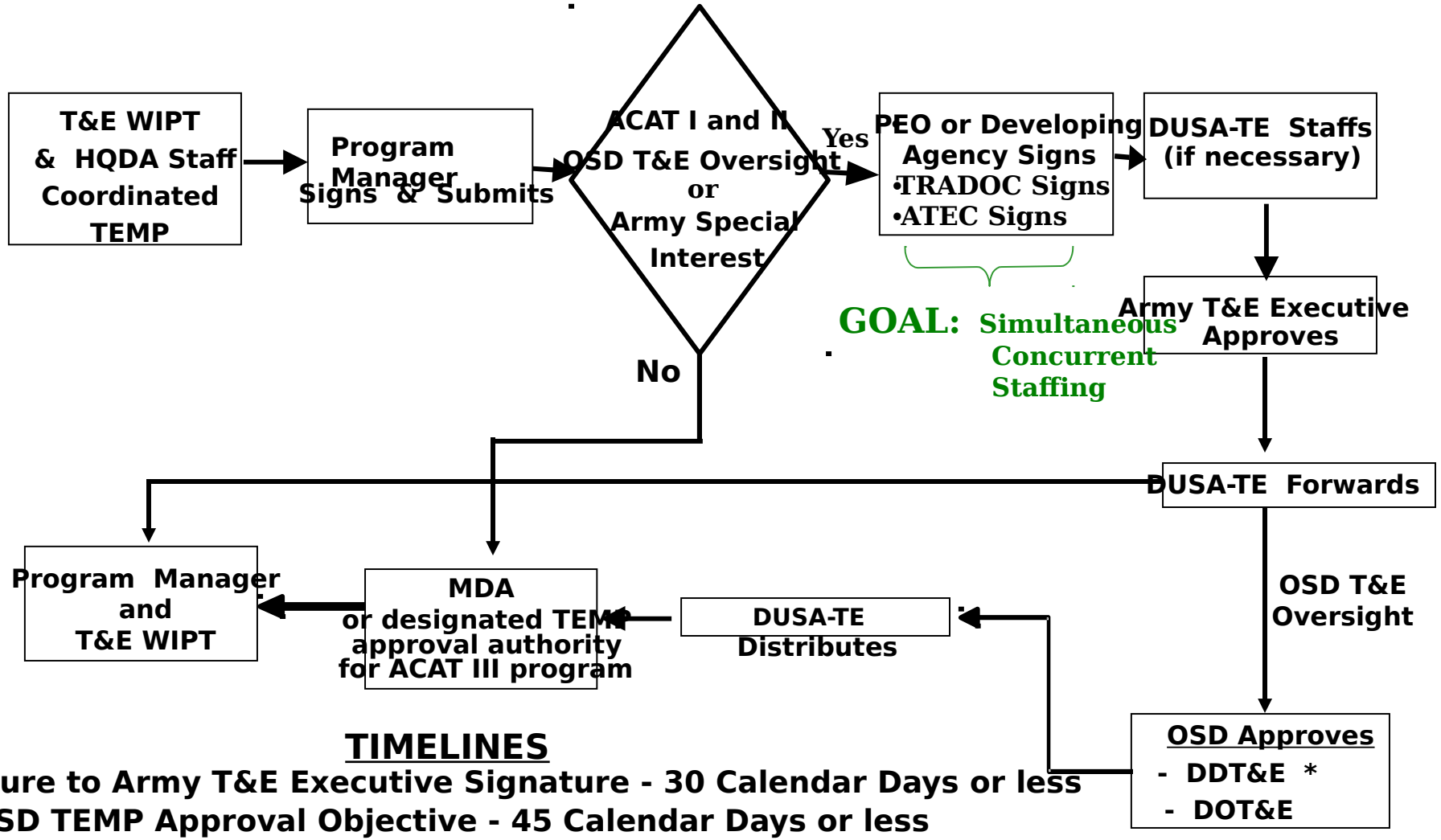

* T&E Working-level Integrated Product Team

** Meetings repeated until TEMP coordination complete

Source: Adapted from DA Pamphlet 73 - 1, Figure 3 - 1

# TEMP Staffing and Approval Proces

## Army-only Programs




**TIMELINES**

**nature to Army T&E Executive Signature - 30 Calendar Days or less**

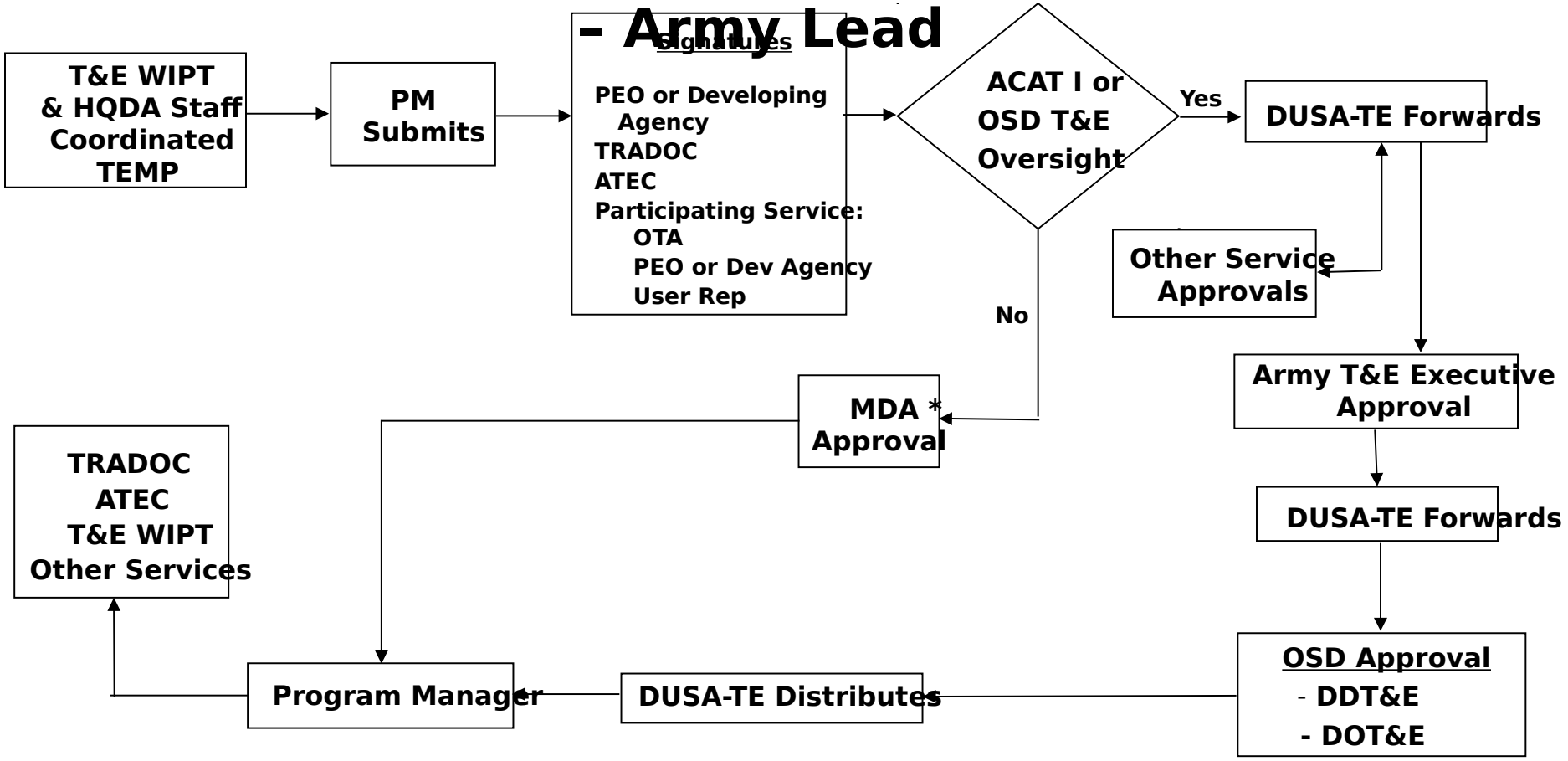
**OSD TEMP Approval Objective - 45 Calendar Days or less**

**Source: Adapted from DA Pamphlet 73 – 1, Figure 3 - 2**

*** ASD(NII) if space, IT, or C3 systems**

# TEMP Staffing and Approval Process

## Multi-Service OSD T&E Oversight Programs – Army Lead




**TIMELINES**

**PM Signature to Army T&E Executive Approval Signature – 30 Calendar Days or less**

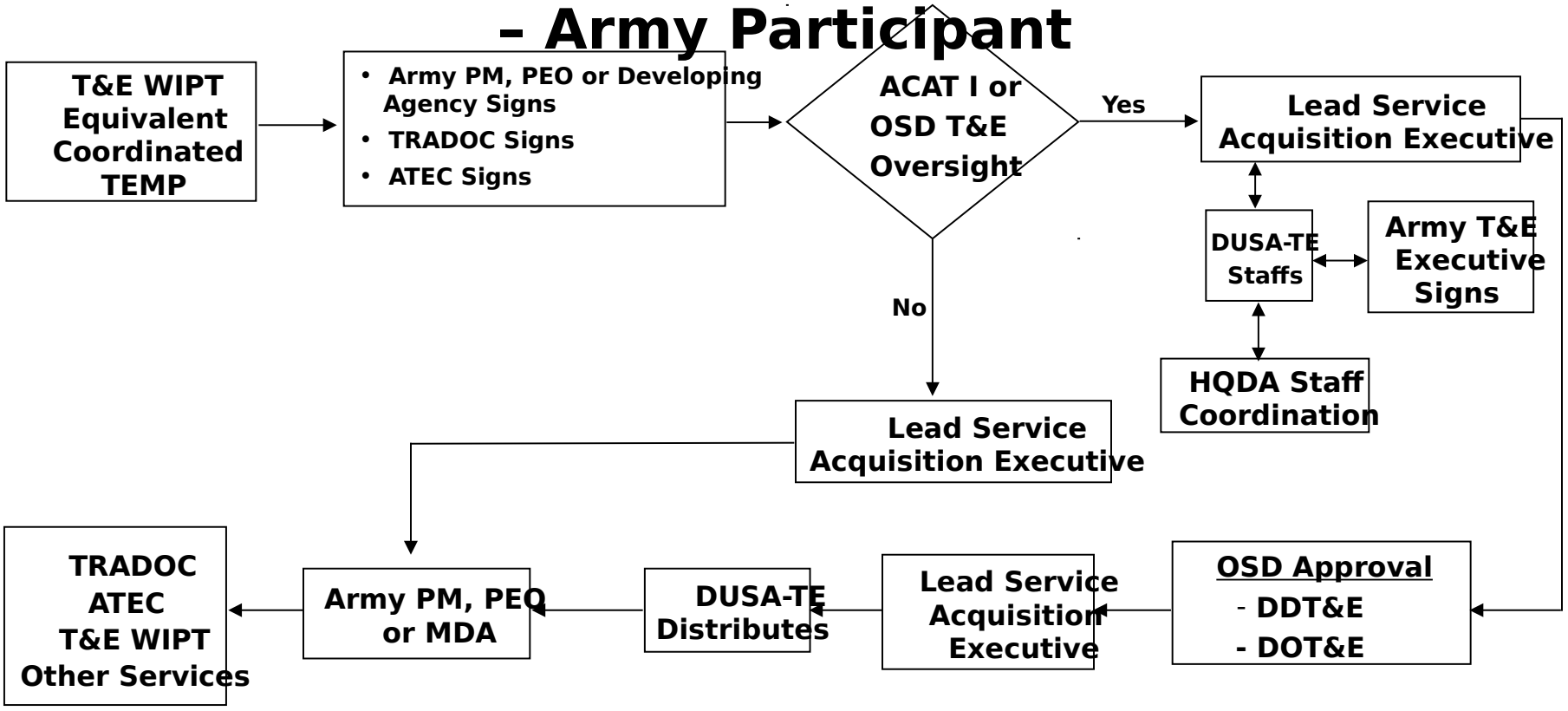
**OSD Signature Objective – 45 Calendar Days or less**

*** ACAT II programs having MDA delegation also have TEMP delegated approval authority**

**Source:** DA Pam 73-1, Figure 3-4, and Defense Acquisition Guidebook, 8 Oct 04, paragraph 9.6.2.3.

# TEMP Staffing and Approval Process

## Multi-Service OSD T&E Oversight Programs – Army Participant




**TIMELINES**

**TEMA Receipt to Army T&E Executive Approval Signature – 20 Calendar Days or less**

**OSD Signature Objective – 45 Calendar Days or less**

**Source:** DA Pam 73-1, Figure 3-5, and Defense Acquisition Guidebook, 8 Oct 04, paragraph 9.6.2.3.

# "Deadly Sins" Affecting TEMP Approval

- **Premature Submission:** Submitting a TEMP for approval when an issue(s) precluding TEMP approval exists
- **Failure to Pre-Coordinate:**
  - HQDA: DUSA-TE and HQDA Staff
  - OSD: Director, DT&E and Director, OT&E
- **Incomplete:**
  - Requirements / Test Crosswalk Matrix missing
  - Classified data not integrated - submitted separately
  - Too many TBDs in Resources Part
- **COIC:** Not HQDA approved and incorporated
- **Size:** Body of plan, excluding annexes, not kept to a manageable length
- **Annexes:** Not kept to a minimum
- **Reference Documents:** ICD / CDD / CPD & STAR not approved / unavailable

# Critical Operational Issues and Criteria (COIC) Process

# What Are COIC ?

- **Decision maker key operational concerns, with bottom line standards of performance that signify the system is operationally ready to proceed at the FRP DR.**
- **Not pass/fail absolutes but are “show stoppers”**
  - **A system falling short of the criteria should not proceed at the FRP DR unless convincing evidence of its operational effectiveness, suitability, and survivability is provided to the decision makers.**
- **Few in number, reflect total operational system concerns, consider system maturity, and employ higher order measures**

# Who Develops COIC ?

**CBTDEV / FP (Lead), PM/MATDEV, and System Evaluator**

**Source: DA Pam 73-1, para 4-1**

# Characteristics of a Good Set of COIC

1. Operationally relevant, mission focused issues and criteria
2. Overarching, total operational system measure
3. Include all system KPPs
4. No overlap or duplication among criteria
5. Few issues and criteria
6. Clearly reflect why the system is being acquired
7. Criteria are true operational “show stoppers”
8. Criteria are achievable and can be evaluated
9. Provide clear guidance on conditions applicable to measuring each criterion and for scoring the results.
10. Avoid terms that could be misinterpreted doing the analysis and/or system evaluation - "better, greater than, less than," "at least as good as," etc
11. Reflect the minimal system acceptable performance for entry into full-rate production

# COIC Development and Approval Process

- **COIC are developed concurrently with CDD / CPD**
- **CBDDEV has lead for CDD / CPD and COIC development process**
- **When CDD/CPD is submitted for Army approval, draft COIC are attached**
- **T&E WIPT uses initial COIC to build initial TEMP**
  - **Subsequent refined versions of COIC are included in the TEMP**
  - **TEMP adjusted/updated until CDD/CPD and COIC are approved**
  - **TEMP is then readied for approval.**
- **Order of approval:**

**ICD → CDD / CPD → COIC → TEMP**

**Source: DA Pam 73-1, para 4-3**

# A 'Concurrent' View

## Joint Capabilities Integration & Development System (JCIDS)

*JPD "JROC Interest" or "Joint*

**ICD / CDD / CPD Development & Coordination**
- ✓ JCIDS analysis
- ✓ Develop / coordinate draft
- ✓ Final d… / TRADOC validate

…me

**ICD / CDD / CPD Army Approval**
- ✓ HQDA staffing
- ✓ AROC / DCS, G-3 approval

45 – 60 days

**Joint Program Designation (JPD)**
- ✓ ICD / CDD / CPD submitted
- ✓ JPD determination

5 – 7 days

**ICD / CDD / CPD Joint Staffing**
- ✓ O-6 staffing
- ✓ Threat, Munitions Net-Ready Certification
- ✓ Flag Officer revie…

60 - 90 days

**ICD / CDD / CPD Validation & Approval**
- ✓ Capabilities-Based Assessments (CBA)
- ✓ DOTMLPF Analysis
- ✓ JROC / VCJCS approval

14 – 30 days

Collaboration

## Critical Operational Issues & Criteria (COIC)

**COIC Development & Coordination**
- ✓ JCIDS analysis / draft KPPs
- ✓ Develop / coordinate draft
- ✓ Incorporate CDD / CPD changes & coordinate final draft

…defined Time (months)

**COIC Validation**
- ✓ PM / ATEC / TRADOC staffing
- ✓ TRADOC Futures Center validation

30 - 45 days

**COIC Approval**
- ✓ HQDA staffing to include DUSA-TE
- ✓ HQDA (DCS, G-8 or CIO / G-6) approval

30 - 45 days

Collaboration

## Test and Evaluation Master Plan (TEMP)

Proponent: Materiel Developer

**TEMP Development & Coordination**
- ✓ PM charters T&E WIPT
- ✓ T&E WIPT develops T&E Strategy / drafts TEMP
- ✓ T&E WIPT signs TEMP 'Coordination Sheet'

Undefined Time (months)

**TEMP Approval - Army**
- ✓ PM submits TEMP for approv…
- ✓ PEO / ATEC / TRADOC concurrence
- ✓ Army T&E Executive approval

20 - 30 days

OSD T&E Oversight designation

**TEMP Approval - OSD**
- ✓ DDT&E approval
- ✓ DOT&E approval

45 days

# OT&E Funding

# OT&E Funding

## ATEC

1. Develop OT&E cost baseline. *

T&E WIPT **

## PM

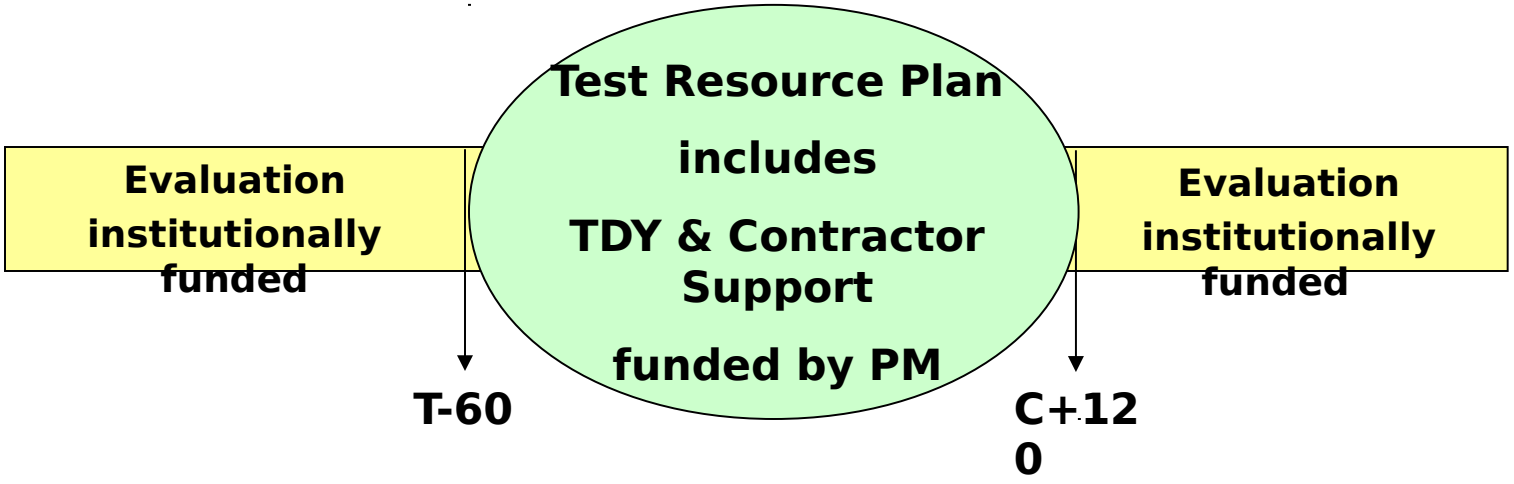
2. POM for all OTP costs.
3. MIPR funds to ATEC in year of execution.

** Funding foundation: ACAT I & II - TEMP & Army Cost Position
ACAT III - Program Office Estimate

* Refine in Test Resource Plan (TRP)

**POM Early for OT&E Funds!**

# Continuous Evaluation Funding Process




**While Continuous Evaluation is institutionally funded,**

**it is supplemented by the PM for those costs**

**identified in the Test Resource Plan (TRP)**

**(that is, evaluation TDY and contractor support)**

# Additional Resources

**AR 73-1 “T&E Policy” 1 Aug 06**

**DA Pamphlet 73-1 “T&E in Support of Systems Acquisition”**

**T&E Refresher Course ***

**TEMP Development 101 ***

*** Can be accessed at**
**http://www.hqda.army.mil/teo**
**https://www.us.army.mil/suite/page/25 (DUSA-TE's AKO Website - r**

# Lessons Learned

| TEMP | T&E WIPT | OTHER |
|---|---|---|
| 1. Configuration Control Requirements/Test Crosswalk Matrix | 6. Coordination | 13. |
| 2. Line-by-Line Review | 7. Signatories | 14. DT for System Contractors |
| 3. Approval Process | 8. Member Roles & Responsibilities | 15. Availability of Soldiers for test |
| 4. Multi-Service Approval - Army Lead | 9. Chair Selection | 15. Early T&E Planning |
| 5. TEMP Annex A - Evaluation Strategy | 10. Chair in Multi-Service Programs | 17. Bibliography |

# Lessons Learned

**1. TEMP Configuration Control:** Lack of configuration controls may result in multiple versions of the TEMP being in circulation. An incident occurred that resulted in a different version of the TEMP being submitted for approval than the one the T&E WIPT had coordinated on.

**Solution:** T&E WIPT Chair must ensure that adequate configuration controls are in place. Use of a common Version numbering system may be beneficial. Moreover, the core T&E WIPT membership must always be afforded an opportunity to review all TEMP changes after they have provided their signature on the T&E WIPT Coordination Sheet (that is, prior to the PM submitting the TEMP for approval).

**2. TEMP Line-by-line Review:** During the T&E WIPT TEMP development process, the draft TEMP is circulated among the entire membership for review and comment. The T&E WIPT Chair then attempts to incorporate the various sets of comments or reach a compromise when some comments are in conflict.

**Solution:** T&E WIPT Chair should convene the core T&E WIPT members, along with the DT and OT testers and those members with conflicting comments, for a mini-T&E WIPT meeting to conduct a TEMP
line-by-line review prior to the T&E WIPT 'Signing Party.'

# Lessons Learned (continued)

**3. TEMP Approval Process:** Unresolved issues identified after the PM formally submits the TEMP for approval can significantly increase the time it takes to gain TEMP approval. In some cases, the PM submits a TEMP before all issues have been resolved through the IPT process.

**Solution:**

(1) Identify and resolve all T&E WIPT issues before the PM submits the TEMP for approval. Take full advantage of the IPT process by identifying contentious issues early and resolving at the appropriate level (WIPT, IIPT, or OIPT). The T&E WIPT "signing party" documents the T&E WIPT members concurrence that all known T&E issues have been adequately addressed and the TEMP is ready for approval.

(2) Present a TEMP briefing to the principal "Big 3" organizations (materiel developer, combat developer, and independent system evaluator) before the TEMP is formally submitted for their concurrence and forwarded to HQDA for approval. Approach reduces the risk that a new issue will be identified after the PM submits the TEMP and helps expedite the TEMP approval process.

# Lessons Learned (continued)

**4. Multi-Service TEMP Approval - Army Lead:** Specific steps and actions must be taken to ensure prompt and proper test planning and coordination. In particular, the TEMP approval process is markedly differer amongst the various Services. Timelines set by the Army are not necessar followed by other Services and delays in timelines can, and will, adversely affect the TEMP approval time.

**Solution:** T&E WIPT Chair for Multi-Service T&E programs with Army Lead must familiarize themselves with other participating Service regulations and procedures. While, within the Army, TEMA is the inter-Serv coordinator for TEMP approval, this should not be the last step. It is critical that the multi-Service participants take ownership of the T&E WIPT coordinated TEMP to do in Service staffing in parallel to Army staffing.

# Lessons Learned (continued)

**5. TEMP Annex A - Bibliography:** A TEMP usually does not cite documents referred to in the TEMP. More often, if the document is listed, the approval date of the reference document is not cited. This omission greatly diminishes the relative value of listing the reference.

**Solution:** List all documents referred to in the TEMP to include reports documenting developmental, operational, and live fire test and evaluation (LFT&E). List approval date for each document cited in the bibliography. Examples of key documents may include: ASR, APB, AOA, ICD/CCD/CPD, STAR, COICs, Live-Fire Waiver and Alternate LFT&E Plan, SER, and LFT&E Report.

# Lessons Learned (continued)

**6. T&E WIPT Coordination:** There have been instances where signatories "concur with comments/exceptions." If forwarded to HQDA in this form, the TEMP will not be routed for approval. TEMP that has a "concur with comment" or a "non-concur" on the T&E WIPT Coordination Sheet will not be signed.

**Solution:** Signatories either concur or non-concur. If there is a non-concur, the WIPT Chair should strive to resolve or refer the problem to the IIPT/OIPT for resolution. If this fails, then the T&E issue should be taken through the chain-of-command for resolution. HQDA TEMP approval authority will adjudicate all T&E issues.

**(Note: A non-concur serves as an official record that the TEMP should not be submitted for approval by the PM)**

# Lessons Learned (continued)

**7. T&E WIPT Signatories:** Incorporating all T&E WIPT attendees on the T&E WIPT Coordination Sheet may be counter productive. Example: While cross pollination/leveraging between program offices may appear productive, allowing a representative from another program to be a signatory on the T&E WIPT Coordination Sheet could cause problems with non-concurrence due to non-testing issues.

**Solution:** Determine during an initial meeting, who will be the T&E WIPT Coordination Sheet signatories so that there is no confusion or doubt when scheduling the TEMP 'Signing Party' especially important in Family of Systems.

# Lessons Learned (continued)

**8. T&E WIPT Member Roles and Responsibilities**. T&E WIPT Chairs lose valuable time getting the T&E WIPT process started because they do not clearly define WIPT member roles and responsibilities early. Also, due to reassignment, promotion, PCS, etc, new members are sometimes not aware of their roles and responsibilities within the IPT.

**Solution**: Clearly define the T&E WIPT mission, member roles and responsibilities, products, and timeline as soon as possible. This is accomplished by publishing the T&E WIPT Charter – make it a priority (See DA Pam 73-1, para 2-4 & Fig 2-2). Use the responsibility matrix (DA Pam 73-1, Table 3-1) as a starting point to assign specific member responsibilities. Also ensure that new T&E WIPT members receive a copy of the current T&E WIPT Charter.

# Lessons Learned (continued)

**9. T&E WIPT Chair Selection:** Often a test engineer or support contractor from the PM office is selected to chair the T&E WIPT. He/she might not really be in a position to speak directly for or make decisions on behalf of the PM, or have the leadership skills required to move the T&E WIPT towards its mission and responsibilities.

**Solution**: The T&E WIPT chair should be a leader who is good at program dynamics, resolving conflict, and forging consensus. The individual should be empowered to run the T&E program with direct access to the Program Manager.

# Lessons Learned (continued)

**10. T&E WIPT Chair in Multi-Service Programs.** T&E WIPT Chair in charge of a multi-Service (Army lead) TEMP needs to be aware of Service "unique" development, staffing, and approval processes:

a. OTA MOA Multi-Service OTA applicability.
b. T&E WIPT Charter.
c. T&E WIPT TEMP Coordination Sheet and Approval Page signatories.

**Solution:** Prior to development of the T&E WIPT charter, ensure all Service T&E WIPT principal/core members are familiar with the following:

a. MOA on Multi-Service Operational Test and Evaluation (MOT&E) dated August 2003 (**http://www.hqda.army.mil/teo** )
b. MOA Operational Suitability Technology and definitions to be used in Operational Test and Evaluation (OT&E), dated August 2003
c. Army unique TEMP staffing and approval requirements, particularly its relationship to and potential impact upon the participating Services' staffing and approval process.
d. Understand other Service(s)'s unique TEMP preparation, staffing, and approval processes so as to allow adequate time to accommodate these

# Lessons Learned (continued)

**11. T&E WIPT Membership Continuity:** At times, T&E WIPT personn turnover has resulted in revisiting TEMP issues that had already been raised and resolved. Such situations cause undue delay in the TEMP Development/approval process as well as animosity among members.

**Solution:** Each new T&E WIPT member should confer with his/her chain-of-command and the Chair, T&E WIPT prior to attending his/her first T&E WIPT meeting. It would also be beneficial for the T&E WIPT Chair to keep a master list of issues and associated resolutions that can be accessed by all T&E WIPT members. When possible, each outgoing T&E WIPT member should conduct a detailed change over session with the incoming T&E WIPT member regarding the various aspects associated with the TEMP development and/or previously resolved T&E issues. Alternatively, a detailed journal/log of command/Service organization issues raised and their resolution should be maintained as a turnover file so as to provide continuity of an organization's position.

# Lessons Learned (continued)

**12. Participation as Observers during Pre-Test Events.** T&E WIPT participation can create a stronger working relationship with the Test Unit while benefiting both the Test Team and T&E WIPT members.

**Solution.** Continue T&E WIPT participation as Observers, whenever possible, during the NET and Test Team's End-to-End data collection exercise while allowing the necessary and sufficient time for internal Test Team training and planning.

# Lessons Learned (continued)

**13. Requirements/Test Crosswalk Matrix:** The Requirements/Test Crosswalk Matrix is required for all Army TEMPs. However, it is frequently an afterthought or is literally a requirement that the T&E WIPT Chair and members are unaware of. The matrix provides a summarized view to demonstrate that a comprehensive test plan has been developed to cover all requirements and that duplication of unnecessary tests have been avoided.

**Solution:** Start development of the crosswalk matrix early to assist and drive the development of the test plan. In addition, show the linkage among the AoAs, MOE, MOS, KPP, COI, and CTP, and how they relate to specific test events in order to identify data necessary to evaluate the system against the requirements (see DA Pam 73-1, para D-6). It is a valuable planning tool and aids in the development of a comprehensive and efficient test plan.

# Lessons Learned (continued)

**14. DT for System Contractors.** Developmental contracts may not include requests for testing on behalf of the system contractor, resulting in additional charges under the U.S. Code provisions for testing for private industry.

**Solution:** Ensure that the contract provides for use of Government test facilities as Government furnished services. This allows DTC to receive the funds directly from the materiel developer, thereby ensuring DOD rates. Moreover, the system evaluator and Government testers should be afforded an opportunity to input to the draft SOW.

**15. Availability of Soldiers for Test.** Troops to support both DT and OT are becoming less and less available to serve as operators and maintainers in testing.

**Solution:** Arrange for soldier support as early as possible through the Test Schedule and Review Committee (TSARC). Consider combined (or integrated DT/OT) for user involvement in early testing.

# Lessons Learned (continued)

**16. Early T&E Planning.** Testers and evaluators need to be included in the early strategy planning, SOW development, and testing requirements to ensure test activities have the time to plan for the required resources, instrumentation, training, cost estimates, etc.

**Solution:** Include testers and evaluators in early planning meetings and solicit their input regarding the T&E strategy and the testability of the item being acquired.

**17. Evaluation Strategy Coordination.** When the ATEC System Team does
not get the T&E WIPT's 'buy-in' to the Evaluation Strategy, it is difficult to obtain an efficient, effective, and successful test program.

**Solution:** Prior to obtaining ATEC's approval at the Early Strategy Review, present the Evaluation Strategy to the T&E WIPT to obtain their buy-in. Given
the PM's buy-in of the evaluation strategy and the critical information needed, a healthy dialog can be opened on developing a successful test strategy. Whenever possible, schedule Early Strategy Reviews to support program milestones and support the required TEMP development and approval processes.

# Lessons Learned (continued)

**18. DT&E Oversight During SDD Phase.** Without an authoritative oversight of DT&E and the corrective action process during System Development and Demonstration Phase, it is difficult to achieve an acceptable level of system technical maturity and readiness prior to OT.

**Solution:** Institute an authoritative level of oversight by OUSD, Director, DDT&E for all OSD T&E oversight systems during the System Development and Demonstration Phase that would approve all DT EDP/DTPs, monitor the corrective action process, and certify the materiel system readiness (that is, technical maturity) prior to the IOT.

# Acknowledgement & Feedback

**This module is a part of the T&E Managers Committee (TEMAC) T&E Refresher Course.**

**Request your feedback. Please contact -**

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